

**IN THE CLAIMS**

Claim 1, (Currently Amended)[[:]] A disposable protective cap for a temperature measurement probe of an infrared radiation thermometer introducible into a body cavity, comprising:

~~a base body of the disposable protective cap shaped to fit the body cavity and having a proximal end engaging the temperature measurement probe and a frontal distal end defining a longitudinal central axis therebetween, the distal end terminating in an opening closed by a window transparent to infrared radiation, comprising:~~

~~a base body forming an inner wall of said disposable protective cap; and  
an outer wall spaced radially apart from said inner wall, said outer wall being permanently attached to the inner wall so as to define at least one airtight chamber between the outer wall and the inner wall.~~

~~wherein the base body includes at least one air chamber at least in parts to improve heat insulation between the temperature measurement probe and the body cavity.~~

Claim 2, (Currently Amended)[[:]] The protective cap as claimed in claim 1, further comprising ~~characterized in that the base body is fabricated from plastic material and that the at least one air chamber are formed of~~ a soft, porous foamed plastic material disposed between the inner wall and the outer wall.

Claim 3 (Canceled).

~~Claim 4.~~ (Currently Amended)[[:]] The protective cap as claimed in claim 1, characterized in that the at least one air chamber is formed by foamed plastic having closed pores.

~~Claim 5.~~ (Currently Amended)[[:]] The protective cap as claimed in claim 1, characterized in that the at least one air chamber has its outside close to the body cavity bounded by a flexible film.

~~Claim 6.~~ (Currently Amended)[[:]] The protective cap as claimed in claim 1, characterized in that the at least one air chamber has its outside bounded by a flexible outer film fabricated from plastic.

~~Claim 7.~~ (Currently Amended)[[:]] A disposable protective cap for a temperature measurement probe of an infrared radiation thermometer introducible into a body cavity, comprising:

~~a base body~~ the disposable protective cap shaped to fit the body cavity and having a window transparent to infrared radiation, the disposable protective cap including a proximal end engaging the temperature measurement probe and a frontal distal end defining a longitudinal central axis therebetween, comprising:

a base body forming an inner wall of said disposable protective cap; and  
an outer wall spaced radially apart from the inner wall, the outer wall being permanently attached to the inner wall so as to define at least one airtight chamber between the outer wall and the inner wall,

~~wherein the base body includes at least one air chamber at least in parts to improve heat insulation between the temperature measurement probe and the body cavity;~~ and the at least one air chamber is subdivided by a plurality of fin members.

~~Claim 8.~~ (Currently Amended)[[:]] The protective cap as claimed in claim 7, wherein ~~characterized in that~~ the fin members are formed of foamed plastic material.

~~Claim 9.~~ (Currently Amended)[[:]] The protective cap as claimed in claim 1 2, characterized in that the window is formed of a window film transparent to infrared radiation.

~~Claim 10~~ (Currently Amended)[[:]] The protective cap as claimed in claim 9, characterized in that the window film is stretched tight by a holding device.

Claims 11-19 (Canceled)

20. (New) The protective cap of claim 1, wherein the distal seal is located at or near the distal end of the base body.

21. (New) The protective cap of claim 1, wherein the outer cover has an outwardly convex shape with respect to the longitudinal axis.

22. (New) The protective cap of claim 1, wherein the air chamber is separated into a plurality of chambers.

23. (New) The protective cap of claim 1, wherein the plurality of air chambers are defined by at least one fin member.

24. (New) The protective cap of claim 1, wherein the distal end of the base body includes a foam insulating member.

25. (New) The protective cap of claim 1, wherein the outer wall is made of plastic selected from the group consisting of polypropylene, polyvinyl, and polyethylene.

26. (New) The protective cap of claim 1, wherein the base body is flexible and deforms towards the longitudinal axis when the protective cap is inserted into and contacts the body cavity.

27. (New) The disposable cap of claim 7, wherein the fin members are connected between base body and outer wall.

28. (New) The disposable cap of claim 7, wherein the fin members are longitudinally oriented.

29. (New) The disposable cap of claim 7, wherein the fin members are made of foamed plastic.

30. (New) The disposable cap of claim 7, wherein the fin members are thin, membrane-type fins.

31. (New) The disposable cap of claim 7, wherein the fins further comprise a plurality of apertures that fluidly connect the air chambers to balance the pressure between adjacent air chambers.

32. (New) The protective cap of claim 7, wherein the outer cover has an outwardly convex shape with respect to the longitudinal axis.

33. (New) A disposable protective cap for a temperature measurement probe of an infrared radiation thermometer introducible into a body cavity comprising:

a generally conical hollow base body of the disposable protective cap having a proximal end and a free frontal distal end defining a longitudinal central axis therebetween, the distal end terminating in an opening closed by a window transparent to infrared radiation, the proximal end

terminating in radially outward projecting annular flange releasably engaging the temperature measurement probe;

a flexible outer wall spaced radially apart from the base body;

a proximal circumferential seal permanently joining the base body and the outer wall at or near the proximal end of the base body;

a distal circumferential seal permanently joining the base body and the outer wall at or near the distal end of the base body, the proximal and distal seals defining at least one annular air chamber between the base body and the outer wall to thermally insulate the temperature probe from the body cavity,

wherein the base body, outer walls, and proximal and distal seals form a structurally self-supported protective cap that is removeable from the temperature measurement probe and disposable.

34. (New) The protective cap of claim 33, wherein the outer cover has an outwardly convex shape with respect to the longitudinal axis.

35. (New) An apparatus combination of a temperature measurement probe of an infrared radiation thermometer and removable disposable protective cap therefor for measuring body temperature, the combination comprising:

a substantially conical temperature measurement probe for insertion into a body cavity;  
and

a self-supporting disposable protective cap including:

(a) a base body shaped to fit the body cavity and having a proximal end releasably engaging the temperature measurement probe and a frontal distal end defining a longitudinal